

PUBLIC NOTICE

APPLICANT: TDOT

505 Deadrick Street
Suite 900 James K Polk Bldg.
Nashville, TN 37243-0339
(615) 253-2477

PERMIT APPLICATION: NRS #06.175

LOCATION:

Slide Repair State Route 108, Log Mile 3.0
Site Lat. 35.2327° Long. -85.5174°
Whitwell, Marion County

WATERSHED DESCRIPTION: The project is located in the Sequatchie (HUC 06020004) watershed. Land use surrounding the project area is rural, wooded, with potential mining operations in the vicinity. The roadbed appears to be on a layer of shale with coal seams exposed in the existing roadway cuts. Five unnamed tributaries to the Sequatchie River are being impacted. These streams have not yet been assessed. All five streams have shale and sandstone substrate with vegetative cover in the project area. Streams 1A, 3, and 4 all flow parallel to SR 108 originating from springs along the existing road cut. Streams 1 and 2 enter the ROW perpendicular to SR 108, flowing from the northwest, down the benches in the existing road cut and through existing box culverts under SR 108 to the Sequatchie. Stream 1A begins south of stream 1 and flows under SR 108 in a 60" metal pipe. Stream 3 is a tributary to Stream 2. Stream 4 is a tributary to Stream 1. USGS TOPO QUAD: Whitwell (100-NE)

PROJECT DESCRIPTION: This application is for aquatic resource alterations along a 0.358-mile segment of State Route 108. Being encapsulated are 5 unnamed tributaries to the Sequatchie River. Proposed is the replacement of 3 existing crossings. To help prevent seepage of water under the roadbed, 4 of the streams are being encapsulated in an under drain.

Proposed for Stream 1, Station 21+60, unnamed tributary to the Sequatchie, is maintenance of the existing 75' box culvert by sliplining the box with 2-30" pipe liners. The void between the pipes is to be filled with flowable fill. A 15' riprap apron will be installed at the outlet.

Stream 1A from Station 22+00+/- to Station 26+80+/-, unnamed tributary to the Sequatchie, is proposed to flow into a rip rap underdrain. A 2' wide 5' deep trench is to be excavated. Stream flow will be encapsulated in a 440' 6 inch perforated pipe wrapped with filter cloth placed in the bottom of the trench with a 40'-6" non perforated plastic outlet pipe. The trench will be backfilled with mineral aggregate stone. A roadway ditch 2' to 12' wide lined with approximately 1' of Class A-1 rip rap is to be constructed above this trench. For the stream crossing at Station 26+80, the existing metal pipe and box culvert are to be removed. The existing catch basin is to be reconstructed. Proposed for this crossing is 67' of smooth wall steel pipe of various diameters. Total encapsulation of

this stream will be 547'. As mitigation for the lost resource, a payment of \$109,400.00 is proposed to the In Lieu Fee Program.

Stream 2, Station 15+42, unnamed tributary to the Sequatchie, is to have the existing 105' box culvert removed and replaced with 96' of smooth wall steel pipe of various diameters. The inlet and outlet slopes are to be graded, seeded and stabilized with erosion control blanketing.

Stream 3, Station 12+69+/- to Station 15+23+/-, unnamed tributary to stream 2, is proposed to flow into a rip rap underdrain. Stream flow is to be encapsulated into a 221'+/- 6" perforated plastic pipe wrapped with filter cloth with a 33' non-perforated plastic outlet pipe. The trenching is to be as described for Stream 1A above. Total encapsulation for this stream will be approximately 254'. As mitigation for this lost resource, a payment of \$50,800.00 is proposed to the In Lieu Fee Program.

Stream 4, Station 20+22 to Station 21+62+/-, unnamed tributary to stream 1, is proposed to flow into a riprap underdrain. Stream flow is to be encapsulated into a 96'-6" perforated plastic pipe wrapped with filter cloth with a 44' non-perforated plastic outlet pipe. The trenching is to be as described for Stream 1A above. Total encapsulation for this stream is to be 150'.

In total the proposed stream encapsulations would be 801 feet, with mitigation of \$160,200.00 proposed to the In Lieu Fee Program.

In accordance with the Tennessee Antidegradation Statement (Rule 1200-4-3-.06), the division has determined that the proposed activity will not result in degradation to water quality.

PERMIT COORDINATOR: Judy Manners

PHOTOS: (Courtesy Deedee Kathman, TDOT Environmental Division)



Photo 1: STR-1, on bench top looking upstream (west) towards cliff at back



Photo 2: STR-1, on bench top looking downstream (east) to cliff by SR 108



Photo 3: STR-1, approximately 20' upstream from culvert inlet (Stn. 21+60) looking downstream (east)



Photo 4: STR-1, standing in culvert outlet (Stn 21+60) looking downstream (east) at water collecting basin and hose



Photo 5: STR-1A, looking upstream (west) from ~10' below start of concrete ditch (~Stn. 25+60)



Photo 6: STR-1A, looking north at drop inlet flow in concrete structure at culvert (Stn. 26+80); flow is from concrete ditch at top and pipe near bottom



Photo 7: STR-1A, looking upstream at culvert outlet at Stn. 26+80. Pipe stops ~20' into culvert outlet; pipe is broken part way into culvert. There is good flow in the pipe and culvert, but it completely stops ~10' downstream of culvert outlet, with no flow all the way down the slope.



Photo 8: STR-2, near culvert inlet (Stn. 15+42) looking upstream (west)



Photo 9: STR-2, Stn. 15+42 culvert, 3-4" crack on side inside culvert



Photo 10: STR-2, Stn. 15+42 culvert, 3-4" crack on bottom inside culvert



Photo 11: STR-2, inside culvert outlet looking downstream (east)



Photo 12: STR-3, looking upstream (north) at stream; stream is from approximate Stn. 12+80 to Stn. 15+42

PLANS:







